Generation of political priority for global surgery: a qualitative policy analysis

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Summary

Background Despite the high burden of surgical conditions, the provision of surgical services has been a low global health priority. We examined factors that have shaped priority for global surgical care.

Methods We undertook semi-structured interviews by telephone with members of global surgical networks and ministries of health to explore the challenges and opportunities surgeons, anaesthesiologists, and other proponents face in increasing global priority for surgery. We did a literature review and collected information from reports from organisations involved in surgery. We used a policy framework consisting of four categories—actor power, ideas, political contexts, and characteristics of the issue itself—to analyse factors that have shaped global political priority for surgery. We did a thematic analysis on the collected information.

Findings Several factors hinder the acquisition of attention and resources for global surgery. With respect to actor power, the global surgery community is fragmented, does not have unifying leadership, and is missing guiding institutions. Regarding ideas, community members disagree on how to address and publicly position the problem. With respect to political contexts, the community has made insufficient efforts to capitalise on political opportunities such as the Millennium Development Goals. Regarding issue characteristics, data on the burden of surgical diseases are limited and public misperceptions surrounding the cost and complexity of surgery are widespread. However, the community has several strengths that portend well for the acquisition of political support. These include the existence of networks deeply committed to the cause, the potential to link with global health priorities, and emerging research on the cost-effectiveness of some procedures.

Interpretation To improve global priority for surgery, proponents will need to create an effective governance structure that facilitates achievement of collective goals, generate consensus on solutions, and find an effective public positioning of the issue that attracts political support.

Funding None.

Introduction

Surgical conditions, which comprise communicable and non-communicable diseases and injuries, account for about 11% of the global burden of disease.[1] The most recent estimate suggests that provision of basic surgical care would avert about 1·5 million deaths per year, or 6–7% of all deaths in low-income and middle-income countries (LMICs).[2] Obstructed labour, maternal haemorrhage, acute abdominal disorders (eg, appendicitis), blindness, and fractures are examples of conditions that can be treated by a surgically trained provider. Injuries alone kill about 6 million people each year—more than the number of deaths from HIV/AIDS, malaria, and tuberculosis combined.[3] Most of this burden is in LMICs, where the poorest third of the world's population receives only 3·5% of the surgical operations done worldwide.[4] Despite the high burden of surgical conditions and the potential for basic surgical care to reduce this burden, surgical provision remains a low priority.[5] No major global health donor provides more than minimal resources for surgery and the Millennium Development Goals (MDGs) do not mention it.

However, in the past decade, surgeons and anaesthesiologists have sought to redress this situation, promoting what they term global surgery, with the aim of making surgical services available to vulnerable populations in LMICs. Like the network of climate scientists, they constitute an epistemic community[6]—a group whose expertise affords them potential influence on global and national policy. In this study, we examined the challenges and opportunities surgeons, anaesthesiologists, and other actors face in increasing global priority for surgery and explored factors that have shaped priority for global surgical care.

Methods

Policy framework

We used the Shiffman and Smith policy framework[7] (table 1) to analyse factors that have shaped global political priority for surgery. Global political priority is "the degree to which international and national political leaders actively give attention to an issue, and back up that attention with the provision of financial, technical, and human resources that are commensurate with the

Research in context

Evidence before this study

We did a literature review to compile additional data for this study. We searched the following databases: Google Scholar, PubMed, ProQuest, JSTOR, and Global Health. We used the search terms "surgery", "surgical care", "essential surgery", or "global surgery" in combination with "assessment", "developing countries", "priority", "policy", "workforce", "cost", "burden", "capacity", and "perception" and included English language articles only. The search included reports, meeting notes, empirical studies, books, and commentaries broadly associated with global surgery actors, policies, strategies, and data.

Added value of this study

We drew on key-informant interviews and a comprehensive literature review to identify barriers to and opportunities for prioritising global surgery. Our data pointed to three key challenges the global surgery community faces in advancing prority, involving improvements needed to governance structure, solution definition, and external positioning of the problem.

Implications of all the available evidence

Despite the challenges identified, our data also point to factors that portend well for generation of political support, including the existence of networks committed to the cause, the potential to link with rising global health priorities, and emerging research on the cost-effectiveness of some surgical procedures. We present both challenges and opportunities, with the aim of sparking productive discussion among the global surgery community.

severity of the issue".[7] The framework includes 11 determinants of political priority, grouped into four categories: (1) actor power, (2) ideas, (3) political contexts, and (4) issue characteristics.

With respect to actor power, a cohesive policy community, effective guiding institutions, unifying leadership, and grassroots mobilisation increase the likelihood that an issue will gain global political priority. For example, former UNICEF head Jim Grant led the Task Force for Child Survival effectively. The Task Force emerged as a powerful global guiding institution for child survival in the 1980s, inspiring civil society mobilisation. With respect to ideas, an issue is more likely to gain attention when policy communities agree on the nature of the problem and solutions, and when they have found ways to portray the issue in ways that resonate with political elites. With respect to political contexts, an effective global governance structure and the presence of policy windows—political moments when global conditions align favourably for an issue—enhance the likelihood that attention and resources will be directed towards an issue. With respect to issue characteristics, high severity, credible indicators, and the availability of interventions enhance political support. Although no one factor is necessary or sufficient for political support, existing research on collective action provides evidence that, other things being equal, every factor improves the likelihood that an issue will receive priority.

To assess the effect of factors pertaining to actor power, we undertook key-informant interviews to examine evidence on how community members managed disagreements on strategy, whether they identified common leaders and organisations that were taking on effective guiding roles, and whether grassroots organisations were mobilised to advocate for surgical provision. To assess ideas, we examined whether key informants expressed similar articulations of the nature of the problem and the means of addressing it, how they attempted to make the case for greater resources for surgical provision, and the extent to which global and national political elites had responded to their calls for action. To assess political contexts, we looked beyond the policy community to consider which issues major global health organisations were prioritising, and the congruence between these priorities and the surgery agenda. To assess issue characteristics, we examined the published work on the burden of surgical disease and proposed strategies to address this burden, to establish whether validated indicators of severity and interventions were in place and widely accepted in the global surgery community.

Our focus was on global rather than national or grassroots actors and debates, except in instances in which regional or national actors had influenced or been influenced by global surgery advocacy efforts. National-level dynamics are crucial for generation of political priority for surgery. Other studies, some connected to *The Lancet* Commission on Global Surgery, are being done on political priority at the national level.[8,9]

For ***The Lancet*** **Commission on Global Surgery** see *Lancet Glob Health* 2015; **3**(S2): S1–44

Literature review

We collected information on global surgery and surgical initiatives in LMICs by searching established databases as well as meeting notes from global surgery conferences, and reports from organisations involved in surgery provision and advocacy. We searched the following databases between January, 1980, and June 12, 2015: Google Scholar, PubMed, ProQuest, JSTOR, and Global Health. We used the search terms "surgery", "surgical care", "essential surgery", or "global surgery" in combination with "assessment", "developing countries", "priority", "policy", "workforce", "cost", "burden", "capacity", and "perception". We restricted our search to articles in English that were broadly associated with global surgery, and documents pertaining to the strategies, arguments, and policies that global surgery actors have considered in improving surgery access and advancing the issue globally.

	Description	Factors shaping political priority
Actor power	The strength of the individuals and organisations concerned with the issue	Policy community cohesion: the degree of coalescence among the network of individuals and organisations that are centrally involved with the issue at the global level Leadership: the presence of individuals capable of uniting the policy community and acknowledged as particularly strong champions for the cause Guiding institutions: the effectiveness of organisations or coordinating mechanisms with a mandate to lead the initiative Civil society mobilisation: the extent to which grassroots organisations have mobilised to press international and national political authorities to address the issue at the global level
Ideas	The ways in which those involved with the issue understand and portray it	Internal frame: the degree to which the policy community agrees on the definition of, causes of, and solutions to the problem External frame: public portrayals of the issue in ways that resonate with external audiences, especially the political leaders who control resources
Political contexts	The environments in which actors operate	Policy windows: political moments when global conditions align favourably for an issue, presenting opportunities for advocates to influence decision makers Global governance structure: the degree to which norms and institutions operating in a sector provide a platform for effective collective action
Issue characteristics	Features of the problem	Credible indicators: clear measures that show the severity of the problem and that can be used to monitor progress Severity: the size of the burden relative to other problems, as indicated by objective measures such as mortality levels Effective interventions: the extent to which proposed means of addressing the problem are clearly explained, cost-effective, backed by scientific evidence, simple to implement, and inexpensive

Reproduced from Shiffman and Smith.[7]

Table 1: **The Shiffman and Smith framework on determinants of political priority for global initiatives**

We included data on surgical burden, capacity, and cost-effectiveness. The appendix includes a list of additional literature consulted, but not referenced in this Article.

Key informant interviews

Between Sept 25, 2012, and Jan 30, 2014, we undertook semi-structured interviews by telephone with members of global surgical networks, their critics, and LMIC ministry of health representatives. We identified these individuals through our literature review on global surgery, meeting notes, reports from major organisations, and by asking interviewees whom they considered to be most centrally involved in global surgery. Using a purposive rather than sampling selection strategy, our aim was to reach theoretical saturation—the point at which all major themes have been identified and additional interviews are unlikely to reveal new information.[10]

The interviews lasted about 1 h and were recorded and transcribed with permission from the key informants. We obtained informed consent from all research participants. The study protocol was cleared through the Institutional Review Board of American University (Washington, DC, USA), which granted the study exempt status because it focused on public policy and was deemed to pose minimal risk to informants. All interview transcriptions and notes were de-identified and secured in password protected documents to ensure respondent confidentiality. We asked each interviewee individualised, open-ended questions, depending on his or her background and involvement in global surgery efforts. Drawing on our findings from the literature review, questions were focused on global surgery governance mechanisms, the way in which global surgery is understood among members of the surgery community and portrayed to decision makers, and the way in which the political environment has shaped this community's strategies. Our aim was to capture the perspectives of global surgery actors themselves on the state of political priority for surgical care globally. The appendix includes the interview questionnaire guide. We did not aim to resolve disagreements among community members or provide recommendations. Rather, we investigated the views and concerns of community members on this issue with the aim of generating productive discussion among them on increasing global priority for surgery.

See Online for appendix

Qualitative analysis

Using the policy framework factors[7] as the initial codes (table 1), we did a thematic analysis[11] in Microsoft Word on collected information from the key informant interviews and literature review to analyse factors shaping political priority for global surgery. To minimise bias, we triangulated among data sources, always corroborating information from interviews with written sources. In reporting the interview data, we assigned each key informant a number, and listed their most prominent institutional affiliation type and country classification. Also, to ensure historical accuracy, we incorporated feedback on a draft of this paper from four interviewees from different institutions. Finally, we used the Consolidated Criteria for Reporting Qualitative Research guidelines[12] to ensure comprehensive reporting of our data collection and analysis processes.

Role of the funding source

There was no funding source for this study. All authors had full access to all the data in the study and had final responsibility for the decision to submit for publication.

Results

40 individuals from 15 countries (Botswana, Canada, Ghana, Kenya, Malawi, Nigeria, Philippines, Rwanda, Sierra Leone, Switzerland, Uganda, UK, USA, Zambia, and Zimbabwe) were contacted for an interview by e-mail. The 26 interviewees who accepted (65% response rate) came from 11 countries (Botswana, Canada, Ghana, Malawi, Nigeria, Philippines, Sierra Leone, Switzerland, Uganda, UK, and USA) from both high-income countries (69%) and LMICs (31%) and from a broad range of organisations (panel; table 2). Most individuals working on the issue of surgery at the global level came from high-income countries, which is why more interviews were done with people from high-income countries than from LMICs (table 2).

***Panel:* Key informant organisation affiliations**

Alliance for Surgery and Anesthesia Today (ASAP Today)
American College of Surgeons (ACS), Operation Giving Back
American Public Health Association (APHA)
Asian Surgical Association (ASA)
Association of Obstetricians of Uganda
Association of Surgeons of Great Britain and Ireland (ASGBI)
Bellagio Essential Surgery Group (BESG)
Canadian Network for International Surgery (CNIS)
Center of Global Surgery at the University of Utah
Christian Medical Fellowship
The College of Surgeons of East, Central, and Southern Africa (COSECSA)
Coloproctology at the Royal Society of Medicine
Consortium of Universities in Global Health
CURE International UK
Violence and Injury Prevention and Disability, WHO
Doctors Without Borders
Dr WC Swanson Family Foundation
Global Alliance to Eliminate Lymphatic Filariasis, WHO
Global Initiative for Emergency and Essential Surgical Care (GIEESC), WHO
Global Partners in Anesthesia and Surgery (GPAS)
Global Pediatric Surgery Network
Global Surgical Consortium (GSC)
Harborview Injury Prevention and Research Center (HIPRC) at the University of Washington
Institute for Global Orthopedics and Traumatology (IGOT)
International Collaboration for Essential Surgery (ICES)
International Federation of Rural Surgery
International Federation of Surgical Colleges (IFSC)
International Surgical Society (ISS)
International Volunteers in Urology (IVUmed)
Johns Hopkins Global Surgery Initiative
Lancet Commission on Global Surgery
Ministry of Health of Botswana
Ministry of Health of Ghana
Office of International Surgery, University of Toronto
Operation Smile
Pan African Association of Surgeons (PAAS)
ReSurge International
The Royal College of Surgeons of England (RCS)
Société Internationale d'Urologie (SIU)
Surgeons OverSeas (SOS)
Surgical Advisor to the Tropical Health and Education Trust (THET)
West African College of Surgeons (WACS)
World Orthopedic Concern

Actor power

Over the past decade, the number of actors working in global surgery has risen rapidly.[13,14] Several organisations worked on global surgery before 2000; however, the increase began after WHO launched the Global Initiative for Emergency and Essential Surgical Care (GIEESC) in December, 2005, to address surgical capacity in LMICs. Since then, several dozen institutions and initiatives have formed, including regional surgical forums, academic centres, and global surgery subcommittees of national medical associations. Although this increase suggests growing attention to global surgery, members of these organisations perceive the specialty to be fragmented,[15] and have expressed substantial concern over the quality of governance, leadership, and civil society mobilisation (interviews 1, 3–5, 7–11, 13, 14, 16, 17, 19, 24, and 26).

Many respondents perceive there to be "no clear logical home" (interview 11) or strong institutional leader for global surgery. Some within the community point to the plausibility of GIEESC taking on this role in view of its extensive individual membership (1794 members from 130 countries) and access to ministries of health (interviews 4 and 7).[16,17] Other surgeons are less optimistic about WHO's ability to lead and unite global surgery actors since surgery is such a small part of WHO, its GIEESC initiative does not have adequate funding, and responsiveness and transparency in the organisation are perceived to be weak (interviews 6, 11, 13, 14, 16, and 24). Several founders of global surgery organisations suggested that they were compelled to set up their initiatives because of these frustrations (interviews 1, 9, and 17). However, other respondents consider the emergence of a guiding institution unlikely, expressing deep frustration over fragmentation; respondent 3 stated, "It's not even different pieces of the puzzle because if you put them all together you still have nothing".

Respondents also pointed to a dearth of leaders with capacity to unify the community. One reason might be career pressures that make devotion of extensive time to global advocacy difficult for surgeons and anaesthesiologists (interviews 3, 4, 15, 20, 24, and 25).[18] When asked to identify individual leaders within global surgery, many respondents pointed to several advocates who have been effective in their specialties; however, no individual was singled out as able to overcome specific allegiances and unify the entire community (interviews 11, 12, 15, 17, and 25). A US-based surgeon commented, "We really don't have a Paul Farmer equivalent…who has been particularly effective in the global surgery realm" (interview 11). Another surgeon working in Africa said,

"There are people in UK, people in US, people out here in Africa that fall in various groupings. I don't think I can say one leads and stands out and seems to be a champion" (interview 17).

Another problem pertaining to actor power is that, unlike HIV/AIDS activists, surgeons and anaesthesiologists concerned with the provision of services in low-income settings have made little effort to harness the voices of patients at the grassroots level (interviews 11, 12, 17, 21, 23, and 25). Existing civil society institutions and forums that promote global surgery are largely limited to professionals. Advocacy work for global surgery has been done almost exclusively by surgeons and anesthesiologists[18] who, as described by a surgeon interviewed, "as a group, tend to be very technically minded people, and... are not as articulate at speaking up on behalf of patients" (interview 10).

Ideas

Despite widespread consensus within the community that surgical capacity in LMICs is a grossly neglected issue—this concern is the glue that binds the community together—there are large differences over how to address this problem. As one surgeon noted, "There's very little debate about what the problems are. And there's also very little debate about the endpoints that need to be reached. But there's almost no consensus about how to get there" (interview 10).

There is disagreement even on the basic issue of how to define surgery and surgical care.[19] Some commentators[16,20–22] draw upon the definition of a surgical condition proposed in the second edition of *Disease Control Priorities in Developing* Countries:[1] "any condition that requires suture, incision, excision, manipulation, or other invasive procedure that usually, but not always, requires local, regional, or general anaesthesia". However, some respondents pointed out that this definition provides no guidance as to which surgical interventions should be prioritised and does not specify who is qualified to provide such services (interviews 1–3, 6–8, 10–12, 17, and 26). Although several efforts have been undertaken to define a group of essential surgical interventions,[1,2,20–26] members of the community have proposed divergent ideas about which surgical interventions should be prioritised, who is qualified to provide such services, and what criteria (ie, projected effect on the burden of disease, affordability, potential effect on health disparities, and simplicity or availability of intervention, or both) should be used to create such a list (interviews 9, 12, 13, 16, and 17).

Moreover, the actors differ on whether the term "essential" should be used at all,[27] and if such a list is even advisable. Some surgeons argue that such a list is important for making global advocacy efforts tangible (interviews 9, 12, 14, 17, and 26), citing WHO Director General Halfdan Mahler's 1980 call for an internationally agreed-upon list of essential surgical procedures in support of primary health care.[28] Others find development of such a list to be counter-productive in view of the wide variation of surgical needs that exist both across and within LMICs (interviews 3, 10, 16, and 24). One respondent argued, "Essential surgery is really context-specific and should be determined by local providers" (interview 3). Another stated, "All surgical care is essential surgery and we are doing a disservice to call some things essential surgery" (interview 8).

Additionally, debate exists around who is capable of undertaking surgery. Some members find that task shifting—the delegation of certain medical responsibilities to less specialised health workers—is a promising strategy for low complexity care (interviews 15 and 16).[29] Others believe that task shifting will compromise the safety of patients and result in poor outcomes (interviews 2 and 24). Many medical associations in high-income countries and LMICs view the practice as threatening their professional autonomy.

Finally, respondents disagree on which strategies to prioritise to improve access to surgical care. These include building more infrastructure, enhancing surgical training

	Affiliation type key informant is most closely associated with	Key informant location
1	International NGO	HIC
2	UN agency	HIC
3	University surgical initiative	HIC
4	University surgical initiative	HIC
5	International NGO	HIC
6	International NGO	HIC
7	UN agency	HIC
8	National NGO	HIC
9	International NGO	HIC
10	University surgical initiative	HIC
11	International NGO	HIC
12	UN agency	HIC
13	International NGO	HIC
14	International NGO	HIC
15	Regional NGO	HIC
16	Regional NGO	HIC
17	Regional NGO	LMIC
18	International NGO	HIC
19	University surgical initiative	HIC
20	International NGO	LMIC
21	University surgical initiative	LMIC
22	Ministry of health	LMIC
23	Ministry of health	LMIC
24	Regional NGO	LMIC
25	Ministry of health	LMIC
26	International NGO	LMIC

HIC=high-income country. LMIC=low-income and middle-income country. NGO=non-governmental organisation.

Table 2: **Key informant affiliation type and location classification, by identification number**

programmes, creating incentives for surgical workforce retention in LMICs, producing surgical safety guidelines, and focusing on survey creation and data collection around surgical needs and burden. As one surgeon noted, "There's an endless number of interventions…to improve access to surgical care and reduce surgical mortality…but not everyone's in agreement on the best way to achieve the goals" (interview 13).

The community's inability to reach consensus on strategy has hindered the emergence of a coherent, effective public positioning of the issue, which is needed to convince political elites to provide resources for surgical care. In the past decade, the case for global surgery has been made in at least seven ways: (1) as an integral component of primary health care;[16,30,31] (2) as a cost-effective intervention;[1,32] (3) as a preventive—not just curative—public health measure;[33] (4) as a high-burden issue that affects everyone;[4,16] (5) as an economic imperative;[34] (6) as a human right;[26] and (7) as a necessity for women's equity and empowerment.[35] The arguments have not taken hold, leaving global surgery with, as one surgeon puts it, a serious "marketing problem" (interview 11). Community members identified several reasons why they have had difficulty finding a convincing portrayal for global surgery. These include an inability to create an emotional connection to the issue and deep-rooted public misperceptions surrounding the complexity and costs of surgical care (interviews 8, 10, 11, 14, and 15). Perhaps most crucially, the community has not clarified what it is asking for when making these arguments for global surgery. As one surgeon pointed out, even if the community captures the attention of a minister of health, "we need to have an answer as to what we want him to do…and we don't have that yet" (interview 12).

Political contexts

There is general consensus that the MDGs represented a missed policy window for global surgery (interviews 7, 8, and 15). Although several individuals published work in which they argued that surgery was important for achievement of several of the MDGs,[36,37] community members undertook no formal initiative to link global surgery with the goals. One surgeon noted the consequence: "The MDGs took the limelight and surgery was neglected" (interview 15).

Recognising this failure, community members have sought to ensure incorporation of surgery into the post-2015 MDG framework.[38,39] Also, they pushed for a dedicated World Health Assembly (WHA) resolution on surgery and anaesthesia, although there was disagreement about its content and members did not always work in tandem to secure this (interviews 1, 8, 9, 11, 16, and 18), which is evidence of ongoing fragmentation in the community. Still, their efforts had results. On May 26, 2014, WHO's Executive Board unanimously passed an agenda item titled *Strengthening Emergency and Essential Surgical Care and Anesthesia as a Component of Universal Health Coverage*,[40] which ultimately passed for resolution at the WHA on May 22, 2015.

Members of the community have organised several major global conferences and initiatives with the aim of building a more favourable political environment for global surgery. These include GIEESC's biennial meetings, annual meetings of the Alliance for Surgery and Anesthesia Presence (ASAP Today), and the newly formed Global Alliance for Surgical, Obstetric, Trauma, and Anesthesia Care (G4 Alliance). Each of these forums has attracted professionals from low-income, middle-income, and high-income countries. Most recently, *The Lancet* Commission on Global Surgery has convened three meetings, and has published a report to promote the delivery of surgical care worldwide.[41]

The recent emergence of attention to universal health coverage and health systems strengthening might help to open a policy window for global surgery. Historically, the global health governance structure has made the attraction of political support for global surgery proponents difficult. The horizontal nature of global surgery has conflicted with the vertical, disease-specific causes that global health funders have favoured. However, the horizontal nature of global surgery is congruent with health systems strengthening and universal health coverage agendas. Global health leaders have taken note. On Jan 17, 2014, World Bank President Jim Kim stated that "surgery is an indivisible, indispensable part of health care and of progress towards universal health coverage".[42]

Issue characteristics

Several issue characteristics make identification of the severity of the problem and potential for tractability difficult, hampering the acquisition of political support. Although some condition-specific and national-level data exist regarding surgical disease burden,[43–45] calculating a reliable global figure is challenging.[19,46] No major disease surveillance instrument or national health information system incorporates indicators capable of adequately measuring surgical disease burden, which has limited global surgery researchers to the use of proxy measures, such as pregnancy-related complications and selected traumatic injuries. Data on the number and type of surgical workers, equipment, and procedures are also limited, although they have been increasing recently. Until recently, most data came from small-scale facility or district-wide studies in LMICs. Only in the past 5 years have single-nation analyses emerged, providing greater insight into the inequities in access to surgical care in LMICs.[38,47] One surgeon expressed his frustration with the paucity of data on global surgery: "They [the HIV/AIDS community] have data. We have nothing. We have, 'It's a big problem. Give us money and then we'll figure out how to do it because we're surgeons and we know better.' Nobody's going to buy that" (interview 1).

Another problematic issue characteristic is a deep-rooted misperception that surgery is costly (interviews 3,

6, 8, and 11).[33] As one surgeon noted, "Within the general public, there is an unconscious bias that surgery is a luxury item that can't be afforded even though it has been shown to be cheaper than condom distribution with regard to DALYs saved" (interview 11). The 2006 Disease Control Priorities report challenged the long-held belief that surgery is too expensive in places where doctors and well-equipped facilities are scarce, finding that basic surgical care delivered at district-level hospitals was as cost-effective as immunisations for measles and tetanus.[1] Findings from the report showed that investing in basic surgery in sub-Saharan Africa's district-level facilities (US$33 per disability-adjusted life-year [DALY] averted) is more cost-effective than HIV/AIDS treatment ($300–500 per DALY averted).[1] Since the landmark 2006 Disease Control Priorities report,[1] several studies, including the most recent Disease Control Priorities report,[2] have been published that provide evidence that surgical care can be cost-effective in low-resource settings.[32,48,49] Expert panel reports in 2008[50] and 2012[51] affirmed essential surgery's cost-effectiveness, ranking it as one of the most promising investments for improving the health of the world's poor people.

Finally, the infrastructure, physical resources, and human resources needed to provide even basic surgical care are inadequate in many LMICs, which poses problems for advancing the claim that many surgical conditions can be easily addressed. Many facilities do not have reliable supplies of water, electricity, oxygen, or functioning anaesthesia machines.[37] Electrical outages and erratic oxygen supplies routinely interrupt or delay operations.[38] A scarcity of trained personnel—not only surgeons and anaesthesiologists—is widespread (interviews 19 and 21–26).[52] For instance, Rwanda, Uganda, Liberia, and Ethiopia each have fewer than one physician surgical provider per 100 000 people.[38] Anaesthesiologists are even less common. The per-capita anaesthesia provider ratio in many LMICs is 100 times lower than that in high-income countries.[53]

However, strategies are being developed to address these deficiencies. Efforts to resolve human resource deficiencies include curriculum innovations, international collaborations, short-term educational surgical missions, and safety and quality guidelines for surgical care.[54] Additionally, policies and programmes in countries such as Uganda aim to address the unequal distribution of the surgical workforce in urban areas through surgical camps, specialist outreach, and decentralisation of surgical services.[55,56] 25 of 47 nations in sub-Saharan Africa have done task-shifting, training and officially authorising non-physician clinicians to provide clinical services, including minor surgery.[56] In five countries—Ethiopia, Ghana, Malawi, Mozambique, and Tanzania—these clinicians are authorised to provide caesarean sections and other emergency obstetrical surgery.[56]

Discussion

If we consider the four categories of factors that shape political support for global health initiatives, we see that global surgery faces several challenges (table 3). With respect to actor power, the global surgery community is fragmented, has limited institutional and individual leadership, and has little grassroots support. With regard to ideas, the community is divided in terms of solutions and does not have a clear set of demands, hampering its capacity to convince policy makers to provide resources.

	Factors shaping political priority	Global surgery challenges	Global surgery opportunities
Actor power	Policy community cohesion Leadership Guiding institutions Civil society mobilisation	Fragmented epistemic community and governance system Dearth of unifying leaders No agreement on guiding institution and extent of desired centralisation Scarcity of grassroots efforts	Existence of a small but dedicated group of advocates Substantial membership overlap among the larger networks and organisations involved in surgical advocacy
Ideas	Internal frame External frame	No consensus on solutions No clear set of demands Little emotional connection produced when making a case for global surgery	Agreement within the community on the problem of neglect of surgical services in LMICs Several external framings have been developed
Political contexts	Policy windows Global governance structure	MDGs not taken advantage of Donor preferences for vertical causes not advantageous for horizontal issues such as global surgery	Potential to gain support via linking with universal coverage and health systems strengthening agendas Advocacy through global forums World Health Assembly resolution and potential for inclusion in post-MDG framework
Issue characteristics	Credible indicators Severity Effective interventions	Paucity of surgical data in LMICs; historical absence of standardised and credible indicators Public misperception about cost and complexity of surgery Shortage of human resources and deficient physical resources in LMICs	Emerging cost-effectiveness research Evidence of alternative surgical care models (ie, task shifting) that reduce complexity in LMICs

LMIC=low-income and middle-income country. MDG=Millennium Development Goals.

Table 3: **Challenges and opportunities for the generation of political priority for global surgery**

With regard to political contexts, the community did not capitalise on the MDG policy window, and historically has faced global health funders who prefer disease-specific initiatives over horizontal causes such as surgery provision. With respect to issue characteristics, measurement of surgical disease burden and disparities in access to surgery is difficult. There is a common misperception that surgery is not cost-effective, and there exist deficiencies in human and physical resources in LMICs needed for even the most basic surgical procedures. These factors—some connected to characteristics of the issue and others to the decisions of the actors—help to explain why surgery has yet to attract global political priority.

However, there are reasons for optimism (table 3). The surgery epistemic community is unified by and committed to the idea that surgical services must be made available in low-income settings, and its members devote extensive time to achieving this goal. Also, although there is no agreement on which individuals or institutions should lead an initiative, several forums exist that could lead to effective governing mechanisms and collective action. Additionally, methods are emerging to better estimate surgical disparities and global burden, and credible evidence is growing that some surgical services are cost effective. These data on burden and services will help the community make the case for investment in surgery. Finally, policy windows are opening for surgery—including the passage of the WHA, as well as emerging attention to universal health coverage and health systems strengthening—and surgery community members are mobilising to take advantage of these.

The findings from this study point to three strategic challenges the global surgery community must address to advance political priority. First, an effective governance structure needs to be built that links actors working on the issue and promotes effective collective action. Community members widely understand present structures to be inadequate, causing frustration and mistrust. The several forums that exist to discuss global surgery—including the WHO's GIEESC, ASAP Today, *The Lancet* Commission on Global Surgery, and the G4 Alliance—might facilitate the process of building effective structures. Second, consensus needs to be reached on solutions. Although there is agreement regarding problem definition—that surgical care is a grossly neglected issue—disagreements persist regarding what needs to be done. Formulating a clear set of demands that is sensitive to the diverse LMIC settings where surgical services are needed is crucial. Third, public positionings of this issue need to be found that resonate with existing positions of policy makers and other external actors, whose support and resources are needed, with particular attention to overcoming prevalent misperceptions surrounding the cost and complexity of surgery. Fortunately, the community has developed many strong arguments for investment in the provision of surgical care. Community members will need to not only develop arguments surrounding burden and cost-effectiveness that appeal to reason, but also develop arguments that ensure an emotional connection to the cause.

These three challenges are linked. An effective governing structure would provide a forum for productive deliberation and increase the likelihood that the community can generate consensus on solutions and discover a public positioning of the issue that resonates with political elites. Also, consensus on solutions and the discovery of an effective public positioning would increase confidence in governing institutions, and trust among community members. There are no inherent reasons why these challenges cannot be addressed in the near future.

Contributors

YRS, JS, and DAS developed the research idea. YRS undertook the interviews, did the literature review, analysed the data, and wrote the draft with support from JS and DAS. JS and DAS provided input on paper drafts. All authors have seen and approved the final version of this manuscript for publication.

Declaration of interests

We declare no competing interests.

References

1 Debas HT, Gosselin R, McCord C, Thind A. Surgery. In: Jamison DT, Breman JG, Measham AR, et al, eds. Disease control priorities in developing countries, 2nd edn. New York: Oxford University Press, 2006: 1245–59.

2 Mock CN, Donkor P, Gawande A, Jamison DT, Kruk ME, Debas HT. Essential surgery: key messages from Disease Control Priorities, 3rd edition. *Lancet* 2015; **385:** 2209–19.

3 WHO. Injuries and violence: the facts. 2004. http://www.who.int/violence_injury_prevention/key_facts/VIP_key_facts.pdf?ua=1 (accessed Sept 1, 2014).

4 Weiser TG, Regenbogen SE, Thompson KD, et al. An estimation of the global volume of surgery: a modelling strategy based on available data. *Lancet* 2008; **372:** 139–44.

5 Farmer PE, Kim JY. Surgery and global health: a view from beyond the OR. *World J Surg* 2008; **32:** 533–36.

6 Haas PM. Introduction: epistemic communities and international policy coordination. *Int Organ* 1992; **46:** 1–35.

7 Shiffman J, Smith S. Generation of political priority for global health initiatives: a framework and case study of maternal mortality. *Lancet* 2007; **370:** 1370–79.

8 Citron I, Chokotho L, Lavy C. Prioritisation of surgery in the National Health Strategic Plans of Africa: a systematic review. *Lancet* 2015; **385:** S53.

9 Dare AJ, Bleicher J, Lee KC, et al. Generation of national political priority for surgery: a qualitative case study of three low-income and middle-income countries. *Lancet* 2015; **385:** S54.

10 Morse J. Theoretical saturation. In: Lewis-Beck M, Bryman A, Liao T, eds. Encyclopedia of social science research methods. Thousand Oaks, CA: SAGE Publications, 2004: 1123–24.

11 Bradley EH, Curry LA, Devers KJ. Qualitative data analysis for health services research: developing taxonomy, themes, and theory. *Health Serv Res* 2007; **42:** 1758–72.

12 Tong A, Sainsbury P, Craig J. Consolidated Criteria for Reporting Qualitative Research (COREQ): a 32-item checklist for interviews and focus groups. *Int J Qual Health Care* 2007; **19:** 349–57.

13 Dare AJ, Grimes CE, Gillies R, et al. Global surgery: defining an emerging global health field. *Lancet* 2014; **384:** 2245–47.

14 Ng-Kamstra JS, Arya S, Chung TE, et al. Mapping the playing field—a novel web-based strategy to identify non-governmental actors in global surgery. *Lancet* 2015; **385:** S55.

15 Hedges JP, Mock CN, Cherian MN. The political economy of emergency and essential surgery in global health. *World J Surg* 2010; **34:** 2003–06.

16 Bickler SW, Spiegel D. Improving surgical care in low-and middle-income countries: a pivotal role for the World Health Organization. *World J Surg* 2010; **34:** 386–90.

17 Spiegel DA, Abdullah F, Price RR, Gosselin RA, Bickler SW. World Health Organization Global Initiative for Emergency and Essential Surgical Care: 2011 and beyond. *World J Surg* 2013; **37:** 1462–69.

18 Luboga S, Galukande M, Ozgediz, D. Recasting the role of the surgeon in Uganda: a proposal to maximize the impact of surgery on public health. *J Trop Med* 2009; **14:** 604–08.

19 Thind A, Mock C, Gosselin RA, McQueen K. Surgical epidemiology: a call for action. *Bull World Health Org* 2012; **90:** 239–40.

20 Ozgediz D, Hsia R, Weiser T, et al. Population health metrics for surgery: effective coverage of surgical services in low-income and middle-income countries. *World J Surg* 2009; **33:** 1–5.

21 Luboga S, Macfarlane SB, von Schreeb J, et al. Increasing access to surgical services in sub-Saharan Africa: priorities for national and international agencies recommended by the Bellagio Essential Surgery Group. *PLoS Med* 2009; **6:** e1000200.

22 Mock C, Cherian M, Juillard C, et al. Developing priorities for addressing surgical conditions globally: furthering the link between surgery and public health policy. *World J Surg* 2010; **34:** 381–85.

23 15×15. The year of surgery. 15×15 campaign. http://15by15surgery.org/15-by-15-campaign/ (accessed Sept 1, 2014).

24 Higashi H, Barendregt JJ, Kassebaum NJ, Weiser TG, Bickler SW, Vos T. Burden of injuries avertable by a basic surgical package in low- and middle-income regions: a systematic analysis from the Global Burden of Disease 2010 study. *World J Surg* 2014; **39:** 1–9.

25 The Right to Heal: a Film about Essential Surgery. Past events. http://www.therighttoheal.com/past-events/ (accessed Sept 1, 2014).

26 McQueen KK, Ozgediz D, Riviello R, et al. Essential surgery: integral to the right to health. *Health Hum Rights* 2010; **12:** 137–52.

27 Royal Australian College of Surgeons. Surgical news. Access to safe surgery and anaesthesia when needed. https://www.surgeons.org/media/20286855/2013_may_access_to_safe_surgery.pdf (accessed Sept 1, 2014).

28 WHO, Mahler H. Address by Dr H Mahler, Director General of the World Health Organization, to the XXII Biennial World Congress of the International College of Surgeons, Mexico City, Sunday 29 June 1980. Surgery and health for all. http://www.who.int/surgery/strategies/Mahler1980speech.pdf (accessed Sept 1, 2014).

29 Chu K, Rosseel P, Gielis P, Ford N. Surgical task shifting in sub-Saharan Africa. *PLoS Med* 2009; **6:** e1000078.

30 Spiegel DA, Gosselin RA. Surgical services in low-income and middle-income countries. *Lancet* 2007; **370:** 1013–15.

31 Cherian M, Choo S, Wilson I, et al. Building and retaining the neglected anaesthesia health workforce: is it crucial for health systems strengthening through primary health care? *Bull World Health Organ* 2010; **88:** 637–39.

32 Chao TE, Sharma K, Mandigo M, et al. Cost-effectiveness of surgery and its policy implications for global health: a systematic review and analysis. *Lancet Glob Health* 2014; **2:** e334–45.

33 Bae JY, Groen RS, Kushner AL. Surgery as a public health intervention: common misconceptions versus the truth. *Bull World Health Organ* 2011; **89:** 394.

34 Kotagal M, Agarwal-Harding KJ, Mock C, Quansah R, Arreola-Risa C, Meara JG. Health and economic benefits of improved injury prevention and trauma care worldwide. *PLoS One* 2014; **9:** e91862.

35 The International Collaboration for Essential Surgery (ICES). Vision and priorities for the sustainable development goals and the post-2015 development agenda: women's equity and essential surgery recommendations for action. March 4, 2014. https://sustainabledevelopment.un.org/getWSDoc.php?id=3907 (accessed Sept 1, 2014).

36 PLoS Medicine Editors. A crucial role for surgery in reaching the UN Millennium Development Goals. *PLoS Med* 2008; **5:** e182.

37 Kushner AL, Cherian MN, Noel L, Spiegel DA, Groth S, Etienne C. Addressing the Millennium Development Goals from a surgical perspective: essential surgery and anesthesia in 8 low-and middle-income countries. *Arch Surg* 2010; **145:** 154–59.

38 LeBrun DG, Chackungal S, Chao TE, et al. Prioritizing essential surgery and safe anesthesia for the Post-2015 Development Agenda: operative capacities of 78 district hospitals in 7 low-and middle-income countries. *Surgery* 2014; **155:** 365–73.

39 International Collaboration for Essential Surgery (ICES). UN Sustainable Development Goals. http://www.essentialsurgery.com/sustainabledev (accessed Sept 1, 2014).

40 WHO Executive Board. Strengthening emergency and essential surgical care and anaesthesia as a component of universal health coverage. http://apps.who.int/gb/ebwha/pdf_files/EB135/B135_3-en.pdf (accessed Sept 1, 2014).

41 Meara JG, Leather AJ, Hagander L, et al. Global Surgery 2030: evidence and solutions for achieving health, welfare, and economic development. *Lancet* 2015; published online April 21. http://dx.doi.org/10.1016/S0140-6736(15)60160-X.

42 Kim J. Video transcript of the opening remarks by Jim Kim, President of the World Bank, to the inaugural meeting of *The Lancet* Commission on Global Surgery. *The Lancet* Commission on Global Surgery; Boston, MA, USA; Jan 17, 2014.

43 Groen RS, Samai M, Stewart KA, et al. Untreated surgical conditions in Sierra Leone: a cluster randomised, cross-sectional, countrywide survey. *Lancet* 2012; **380:** 1082–87.

44 Grimes CE, Law RS, Borgstein ES, Mkandawire NC, Lavy CB. Systematic review of met and unmet need of surgical disease in rural sub-Saharan Africa. *World J Surg* 2012; **36:** 8–23.

45 Rose J, Chang DC, Weiser TG, Kassebaum NJ, Bickler SW. The role of surgery in global health: analysis of United States inpatient procedure frequency by condition using the Global Burden of Disease 2010 framework. *PLoS One* 2014; **9:** e89693.

46 Gosselin R, Ozgediz D, Poenaru D. A square peg in a round hole? Challenges with DALY-based "burden of disease" calculations in surgery and a call for alternative metrics. *World J Surg* 2013; **37:** 2507–11.

47 Spiegel DA, Choo S, Cherian M, et al. Quantifying surgical and anesthetic availability at primary health facilities in Mongolia. *World J Surg* 2011; **35:** 272–79.

48 Grimes CE, Henry JA, Maraka J, Mkandawire NC, Cotton M. Cost-effectiveness of surgery in low- and middle-income countries: a systematic review. *World J Surg* 2014; **38:** 252–63.

49 Marseille E, Morshed S. Essential surgery is cost effective in resource-poor countries. *Lancet Glob Health* 2014; **2:** e302–03.

50 Copenhagen Consensus 2008. Results. http://www.copenhagenconsensus.com/sites/default/files/cc08_results_final_0.pdf (accessed Sept 1, 2014).

51 Copenhagen Consensus 2012. Expert panel findings. http://www.copenhagenconsensus.com/sites/default/files/outcome_document_updated_1105.pdf (accessed Sept 1, 2014).

52 Hoyler M, Finlayson SR, McClain CD, Meara JG, Hagander L. Shortage of doctors, shortage of data: a review of the global surgery, obstetrics, and anesthesia workforce literature. *World J Surg* 2014; **38:** 269–80.

53 Dubowitz G, Detlefs S, McQueen KK. Global anesthesia workforce crisis: a preliminary survey revealing shortages contributing to undesirable outcomes and unsafe practices. *World J Surg* 2010; **34:** 438–44.

54 Ozgediz D, Wang J, Jayaraman S, et al. Surgical training and global health: initial results of a 5-year partnership with a surgical training program in a low-income country. *Arch Surg* 2008; **143:** 860–65.

55 Ozgediz D, Galukande M, Mabweijano J, et al. The neglect of the global surgical workforce: experience and evidence from Uganda. *World J Surg* 2008; **32:** 1208–15.

56 Mullan F, Frehywot S. Non-physician clinicians in 47 sub-Saharan African countries. *Lancet* 2007; **370:** 2158–63.